

FEATURES

- Six independent 1S LiPo battery chargers allow you to fly all day
- 100mA or 500mA jumper selectable charge currents
- LED charging indication turns off when battery is charged
- 6V adapter powered with polarity protection
- 4.20V terminal charge voltage
- thermally protected
- trickle charge precondition, constant current, constant voltage charge algorithm
- battery discharge protection from faulty or shorted power input
- Now available in three output options,
 - A 6x Pico plug
 - B 3x Pico Plug + 3x JST Plug
 - C 6x JST Plug
- 2.10”L 1.55”H

DESCRIPTION

The E2650 1S LiPo Battery Gang Charger includes six independent chargers with jumper selectable charge currents of 100mA and 500mA. Using independent chargers is safer for the batteries than paralleling them and using a single charger because there are no high discharge currents between the higher charged batteries into the lower charged batteries. The advanced charge algorithm features a trickle charge preconditioning followed by constant current charge, and then a 4.20V

constant voltage charge. The charger is protected against reverse polarity at the power input, and the batteries are protected against reverse discharge due to a faulty or shorted power input. During the constant current charge stage, the charger chip is thermally protected and will reduce the charging current due to overheating or if in high ambient temperatures.

Warning- check the battery specifications for the maximum allowable charge rate.

Table 1. Electrical CharacteristicsTest Conditions: Supply Voltage $V_{dd} = +6.0V$, $T_{ambient} = 25^{\circ}C$, unless otherwise specified

| Symbol | Parameter | Min. | Typ. | Max. | Unit |
|---------------|----------------------------------|-------|------|-------|-------------|
| V_{dd} | Supply voltage | | 6.0 | | V |
| I_{dd} | Supply current no batteries | | 9 | | mA |
| I_{dd} | Supply current 6x100mA batteries | | 600 | | mA |
| I_{dd} | Supply current 6x500mA batteries | | 3000 | | mA |
| V_{reg} | Terminal voltage | 4.168 | 4.20 | 4.232 | V |
| $T_{operate}$ | Operating temperature | 0 | | +35 | $^{\circ}C$ |
| T_{sd} | Thermal shutdown | | 150 | | $^{\circ}C$ |

General Precautions

Charged devices and circuit boards can discharge without warning. Proper ESD precautions should be followed to avoid failure.

This device is not authorized for use in any product where the failure or malfunction of the product can reasonably be expected to cause failure in a life support system or to significantly affect its operation.

Locus Engineering Inc. reserves the right to make changes at any time without notice to improve product features or reliability.

Information is provided by Locus Engineering Inc. with the best of intentions without any warranty expressed or implied. As such Locus Engineering Inc. disclaims all liabilities or responsibilities for any use of the information, any inaccuracies or fitness for a particular purpose.

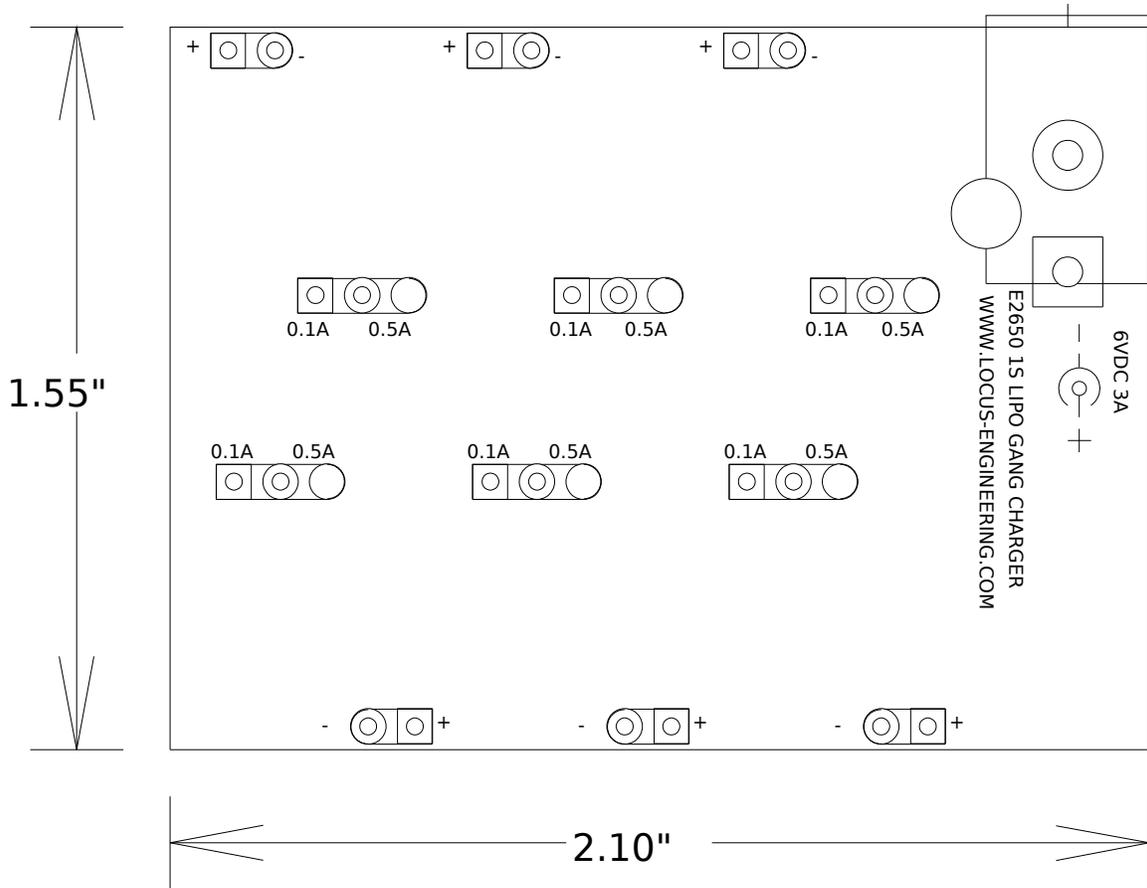
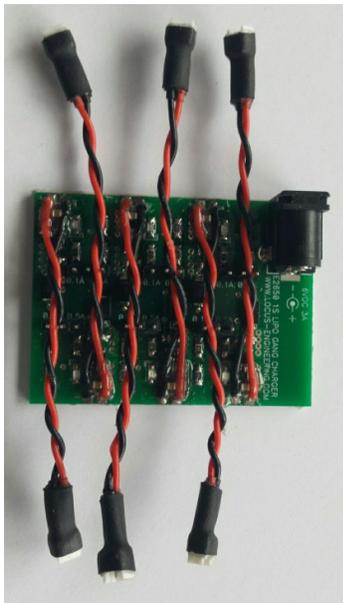


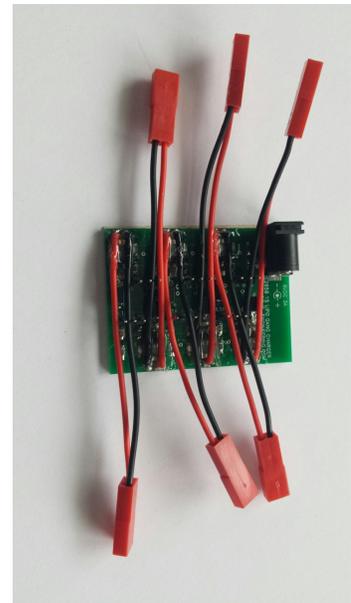
Figure 1. Module Dimensions



Option A



Option B



Option C

Operation

The E2650 1S LiPo Battery Gang Charger is easy to use. Consult the battery datasheets to ensure the proper charge rate. The gang charger provides two selectable charge rates, 100mA and 500mA. Select the charge rate using the provided jumpers that will not exceed the maximum battery rate. Many batteries have charge rates of 2C to 5C but it is important to make sure in order to prolong the battery life.

The supplied connectors are Picoplug types on 1.25mm pitch. They are strain relieved at the board.

A 6V adapter with a center positive 2.1mm/5.5mm plug is required to power the gang charger. The adapter current rating must match the maximum charging capacity expected. If only six 100mA batteries will be charged at once, a 1A adapter is sufficient. If six 500mA batteries will be charged, then a 3A charger will be needed.

To charge the batteries, connect the adapter, then connect the 1S batteries to the charger. Some times it is necessary to disconnect the adapter, then reconnect it to start the charge cycle. Batteries under charge will cause their respective status LEDs to turn on. At the end of the charge cycle, these LEDs will turn off.

It will be noted that charging smaller capacity batteries at the 500mA rate will seem to complete faster but charging the same batteries on the 100mA setting will allow them to fully charge.

The charger board will get warm particularly when charging at the 500mA rate. Keep the charger board cool and out of direct sunlight or heat sources so the charge rate isn't affected by the thermal shutdown. Fireproof charging bags can be used to cover the batteries but keep the charger board outside to keep it cool.

It is not recommended to charge LiPo batteries near or below 0C as this damages the battery capacity and reduces the maximum discharge current. Batteries should ideally be charged outside or in an enclosure that would limit any potential fires.

Keep charged LiPo batteries in a cool protected enclosure outside if possible.

If a battery does catch fire, unplug the adapter power source and use a bucket of sand, an ABC fire extinguisher, or plenty of water.

NEVER LEAVE LIPO BATTERIES UNDER CHARGE UNATTENDED!